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December 4, 1996

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Federal Communications Commission  
Office of Secretary

## VIA HAND DELIVERY

Mr. William F. Caton  
Secretary  
Federal Communications Commission  
Room 222  
1919 M Street, NW  
Washington, DC 20554

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Re: In the Matter of Amendment of the Commission's Rules to Establish Part 27,  
The Wireless Communications Service ("WCS"), GN Docket 96-228

Dear Mr. Caton:

Enclosed herewith for filing are an original and ten (10) copies of Comments filed on behalf of DSC Communications Corporation in the above-referenced matter.

Please acknowledge receipt on the supplemental copy provided and remit same to the bearer.

Sincerely,

  
Laura S. Roecklein

LSR/gdb  
Enclosures

cc: ITS

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**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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In the Matter of

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Amendment Of The Commission's  
Rules To Establish Part 27, The  
Wireless Communications Service  
("WCS")

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GN Docket No. 96-228

**COMMENTS OF  
DSC COMMUNICATIONS CORPORATION**

DSC Communications Corporation ("DSC"),<sup>1</sup> by its attorneys, hereby submits its Comments in the above-captioned Notice of Proposed Rule Making ("NPRM"), by which the Commission proposes to establish a new Wireless Communications Service in the 2305-2320 and 2345-2360 MHz bands of spectrum ("WCS"). DSC files comments in this proceeding to express its support for WCS and to express its opinion regarding the need for a separate NPRM addressing the issue of spectrum allocation for wireless fixed access local loop ("WFA-LL") services in accord with its Petition for Rulemaking recently filed with the Commission.<sup>2</sup>

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<sup>1</sup> DSC is a publicly traded, Texas-based leading designer, developer, manufacturer and marketer of digital, switching, access, transmission and private network systems products. DSC's products are utilized by six of the Regional Bell Companies, MCI, several independent telephone companies and numerous U.S. interexchange carriers. In addition, DSC equipment is in use by telecommunications carriers today in over 50 nations around the world.

<sup>2</sup> See *Petition for Allocation of Radio Spectrum in the 2 GHz band for the provision of Wireless Fixed Access Local Loop Services*, RM-8837 (June 4, 1996) ("DSC Petition"), as cited by the Commission in the NPRM. See *In the Matter of Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Service*, Notice of Proposed Rule Making, ¶ 11, fn. 26, FCC 96-441 (rel. Nov. 12, 1996) ("NPRM").

## I. INTRODUCTION AND SUMMARY

At the outset, DSC states that it is in full support of the establishment of the WCS. DSC strongly believes that the availability of more spectrum for various telecommunications services, *i.e.*, fixed, mobile, radiolocation and satellite Digital Audio Radio ("DARS"), will foster additional competition in those sectors, thus, offering the consumer more choices and lower prices. In fact, these concepts of more choices and lower prices were recently advocated by DSC in its June 4, 1996 Petition for the allocation of radio spectrum for the provision of wireless fixed access local loop ("WFA-LL") services. The Petition requested the allocation of spectrum for WFA-LL, demonstrating the current need for WFA-LL service, *i.e.*, a radio-based service capable of providing wireline equivalent service, and illustrating how WFA-LL systems serve the primary goals of the Telecommunications Act of 1996. Specifically, DSC demonstrated how WFA-LL services promote facilities based local competition, provide new technologies and services to the public, and advance the development of universal service in both rural and high-cost areas. In accord with the public service benefits of WFA-LL technology, DSC also demonstrated the economic and technological superiority of WFA-LL architecture over other wireless alternatives, *i.e.*, fixed cellular/PCS, wireless drop, and point-to-point and point-to-multipoint microwave architectures.

Most importantly, and relative to the present rulemaking proceeding, DSC demonstrated the need for adequate amounts of spectrum in order to support higher data rates required for ISDN, Internet access, and/or leased line service.<sup>3</sup> Accordingly, DSC proposed six possible channelization plans for WFA-LL service deployment, each utilizing approximately 70 MHz of spectrum for the adequate provision of wide-area WFA-LL services. As such, DSC provides the following comments regarding, among other issues, the insufficiency of the 30 MHz of spectrum

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<sup>3</sup>See DSC Petition at 14-15.

up for auction in the present proceeding for the provision of WFA-LL services. DSC also suggests, in view of its pending Petition, that the Commission issue a separate NPRM for spectrum allocation for WFA-LL services that addresses the issue of the amount of spectrum necessary to support WFA-LL technology in order to provide the most cost efficient and highest quality services.

## **II. DISCUSSION**

### **A. Permitted Services and Licensed Service Area**

DSC agrees with the Commission that "authorizing a wide variety of services bounded only by international allocations . . . serve[s] the public interest by fostering the provision and mix of services most desired by the public."<sup>4</sup> DSC, therefore, supports the Commission's proposal to permit WCS licensees to use the spectrum for "any use permitted with in any of the allocation categories of fixed, mobile, radiolocation and broadcasting-satellite services."<sup>5</sup>

DSC believes, however, based on its experience as a leading designer, developer, manufacturer and marketer of digital, switching, access, transmission and private network systems products, and its pending Petition for spectrum allocation for WFA-LL technology, that paired spectrum allocations of 15 MHz or less are inadequate for wide-area WFA-LL services that are and should be equivalent to the traditional wireline services. Nonetheless, DSC suggests that, in order to maximize the quality received from and potential value of WCS for wireless services other than WFA-LL, as well as to stimulate direct competition to existing fixed and

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<sup>4</sup>NPRM at ¶ 9.

<sup>5</sup>NPRM at ¶ 9.

mobile services, the Commission should avoid dividing the spectrum into smaller frequency bandwidths and should auction the spectrum in the 15 MHz pairs or in a block of 30 MHz.<sup>6</sup>

Regarding the issue of the appropriate size for WCS licenses, DSC believes that the Commission's suggestion to license WCS on the basis of the 51 major trading areas ("MTAs") to be the most suitable option. DSC believes, like the Commission, that the 51 MTAs would "provide certain economies of scale and scope needed for the development of low cost equipment . . . and would facilitate interoperability."<sup>7</sup>

#### B. Spectrum for Each License

As discussed above, DSC believes that 15 MHz pairs of spectrum or less, are inadequate to support wide-area WFA-LL. In its Petition for Rulemaking, and its subsequent Reply, DSC demonstrated that paired allocations of smaller amounts of bandwidth, while possibly capable of providing voice and voice-band data services, are nonetheless inadequate to support higher data rates required for ISDN, Internet access, and/or leased line service.<sup>8</sup> Specifically DSC stated that

[u]nlike mobile-derived Fixed Cellular/PCS and the Wireless Drop architectures, the WFA architecture has been designed to provide toll quality voice and premium services, just as the wireline infrastructure supports today. . . . For WFA-LL services, the bandwidth per channel link, must be sufficient to support the range of services defined. For most applications, this range of bandwidth is between 32 kbps to 144 kbps, or ADPCM-coded voice to ISDN. While voice can be delivered with varying degrees of

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<sup>6</sup>See discussion *infra* at pp. 4-5 (addressing DSC's belief that paired spectrum allocations of 15 MHz or less are inadequate for wide-area, radio-based, wireline equivalent service offerings).

<sup>7</sup>NPRM at ¶ 10. DSC notes that in its Petition DSC suggested the use of MSA- and RSA-wide licenses for the provision of WFA-LL services. DSC does not, however, object to the larger scale MTA suggested by the Commission in the present proceeding because the Commission has also proposed allowing the licensees to disaggregate and partition the geographic service areas through the transfer of FCC licensing authority. See NPRM at ¶ 16.

<sup>8</sup>See *Petition for Allocation of Radio Spectrum in the 2 GHz Band for the Provision of Wireless Fixed Access Local Loop Services*, 14-15, RM-8837 (June 4, 1996) ("DSC Petition").

quality with less bandwidth, fax, data and other premium services a wireline customer takes for granted cannot be delivered at "sub-grade" quality.<sup>9</sup>

This inability to support higher data rate wireline features on smaller bandwidths of spectrum, *i.e.*, the 15 +15 MHz up for auction in the present proceeding, was also suggested in several of the Comments filed in response to DSC's Petition. According to Northern Telecom, Inc., ("Nortel"), for instance, "Nortel believes that approximately 70-100 MHz is necessary to support a [Fixed Wireless Access] FWA system that would be capable of service between 200 and 5,000 subscribers per cell."<sup>10</sup> SR Telecom, Inc. ("SR Telecom") also agreed with this position, noting that DSC's suggested use of the spectrum between 1.3 and 2.7 GHz "would be most suitable" for the provision of wireless local loop services ("WLL"). Specifically, SR Telecom stated that "[w]hile SR Telecom applauds the Commission's recent decision to allow CMRS licensees to offer fixed wireless services, SR Telecom agrees with DSC that . . . given the heavy use to which CMRS spectrum already is being put to meet the need for mobile communications, the amount of such spectrum available for fixed operations likely will prove woefully inadequate to meet the demand for WLL services."<sup>11</sup>

DSC again suggests, therefore, in view of the numerous attributes of WFA-LL services over other wireless services and the support for the allocation of spectrum for WFA-LL services,<sup>12</sup> coupled with the fact that the spectrum available in the instant proceeding is

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<sup>9</sup>DSC Petition at 14-15.

<sup>10</sup>Nortel at 27.

<sup>11</sup>SR Telecom at 8-9.

<sup>12</sup>Lucent Technologies, Inc. at 2; Pacific Telesis Group at 6; SR Telecom at 4-5; InterDigital at 9-10. Ericsson Inc. ("Ericsson") and the Wireless Cable Association International, Inc. ("WCA") expressed their positions of non-opposition to the concept of spectrum allocation. Specifically, Ericsson stated that "Ericsson does not object to the provision of wireless local loop services. Neither does it object to an allocation of spectrum for other wireless fixed services that will allow new service providers to provide competitive-facilities based local competition."

*(Footnote continued to next page)*

insufficient to adequately support wide-area WFA-LL technology, that the Commission issue a separate NPRM for spectrum allocation for WFA-LL services. DSC also suggests that such an NPRM should specifically address the issue of the amount of spectrum necessary to support WFA-LL technology and to provide the most cost efficient and highest quality wireline equivalent services.

### **III. CONCLUSION**

DSC's interest in the present proceeding derives from its experience in supplying equipment to telecommunications companies all over the world, which has imparted on DSC the growing need for the creation of an efficient and inexpensive wireless service. Because of this growing need, DSC has filed its own Petition for the allocation of portion of the 2 GHz spectrum band for WFA-LL service, which DSC believes, would be a valuable addition to the choices available to the carriers and consumers alike, especially as local competition begins to develop in earnest. DSC, therefore, files these comments to express its support of the establishment of the WCS and to express its opinion regarding the inadequacy of the 30 MHz spectrum block for WFA-LL use. In addition to the comments provided for the present NPRM, many of which could be equally applicable to an NPRM for WFA-LL services, and in light of DSC's pending Petition, DSC also requests the Commission to institute an NPRM in that matter.

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*(Footnote continued from previous page)*

Ericsson at 1. While WCA noted that "WCA does not necessarily object to the concept of reallocating spectrum between 1.3 GHz and 2.7 GHz that could be used for WFA-LL. . . ." WCA at 3.

Respectfully submitted,

DSC Communications Corporation  
by:

A handwritten signature in cursive script, reading "Laura S. Roecklein", written over a horizontal line.

Randall B. Lowe

Laura S. Roecklein

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Its Attorneys

December 4, 1996